

CITY OF PAYETTE PWS 3380009
SOURCE WATER ASSESSMENT FINAL REPORT

December 7, 2000



State of Idaho
Department of Environmental Quality

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Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the act. This assessment is based on a land use inventory of the designated assessment area, sensitivity factors associated with the wells, and aquifer characteristics.

This report, *Source Water Assessment for City of Payette, Idaho*, describes the public drinking water system, the boundaries of the zones of water contribution, and the associated potential contaminant sources located within these boundaries. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The City of Payette drinking water system consists of seven wells. No chemical contamination has been detected in the drinking water system. Within the last three years there have been five incidents of detection of total coliform bacteria, all of which have been resolved by additional testing.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

For the City of Payette, source water protection activities should focus on implementation of practices aimed at ensuring that the most appropriate well practices for prevention of contaminant transport from surface sources to the deeper portions of the aquifer are implemented. Most of the designated areas are within the direct jurisdiction of the City of Payette, thereby providing additional options for managing potential sources of contamination. Due to the time involved with the movement of ground water, source water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

A community with a fully-developed source water protection program will incorporate many strategies. For assistance in developing protection strategies, please contact the Boise Regional Office of the Idaho Department of Environmental Quality or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR CITY OF PAYETTE, IDAHO

Section 1. Introduction - Basis for Assessment

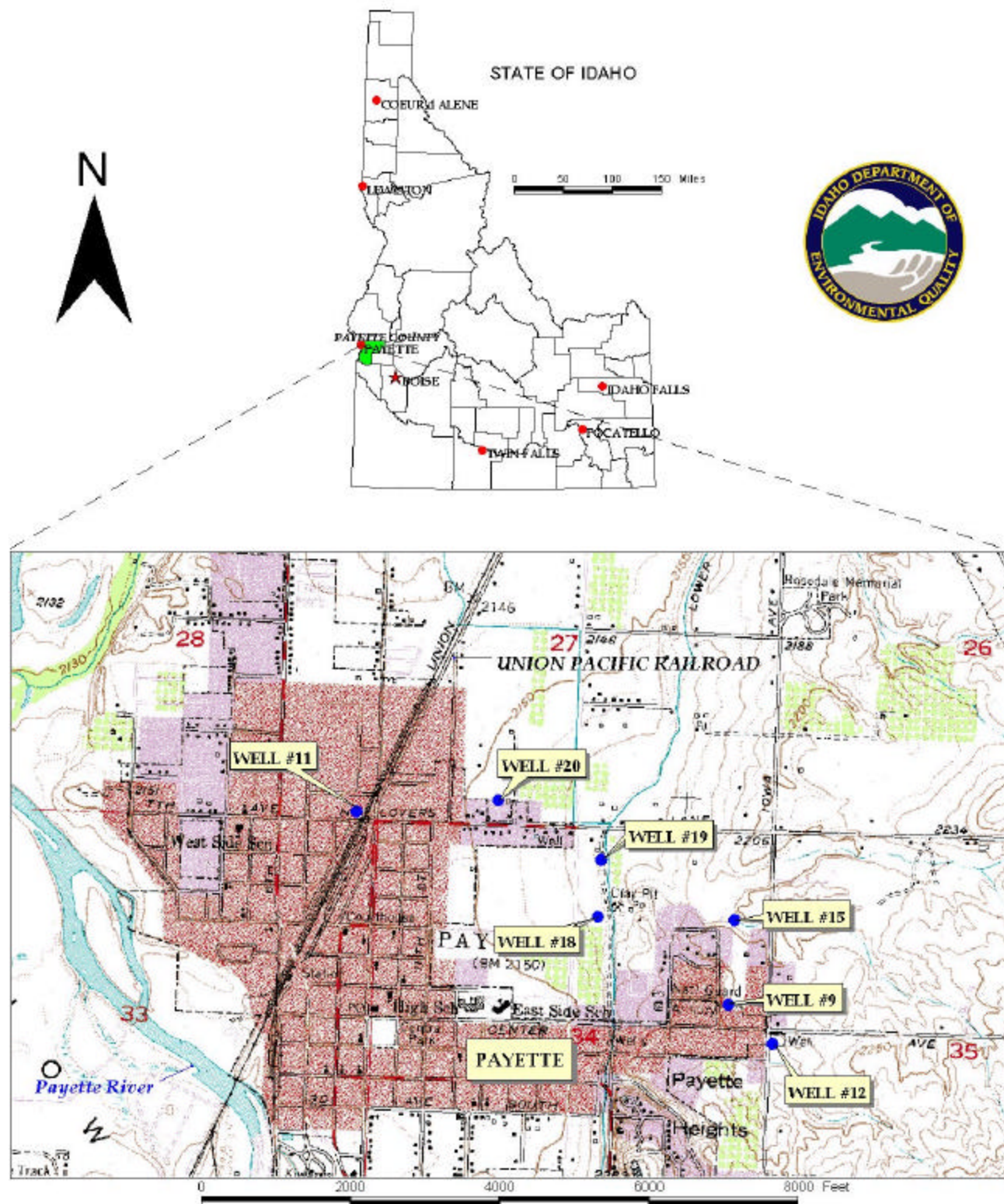
The following sections contain information necessary to understand how and why this assessment was conducted. **It is important to review this information to understand what the ranking of this source means.** A map showing the delineated source water assessment area and the inventory of significant potential sources of contamination identified within that area are included in this report. The list of significant potential contaminant source categories and their rankings, used to develop this assessment, is also attached.

Level of Accuracy and Purpose of the Assessment

The Idaho Department of Environmental Quality (DEQ) is required by the U.S. Environmental Protection Agency (EPA) to assess the over 2,900 public drinking water sources in Idaho for their relative susceptibility to contaminants regulated by the Safe Drinking Water Act. This assessment is based on a land use inventory of the delineated assessment area, sensitivity factors associated with the wells, and aquifer characteristics. All assessments must be completed by May of 2003. The resources and time available to accomplish assessments are limited. Therefore, an in-depth, site-specific investigation to identify each significant potential source of contamination for every public water system is not possible. **This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The ultimate goal of this assessment is to provide data to local communities to develop a protection strategy for their drinking water supply system. The DEQ recognizes that pollution prevention activities generally require less time and money to implement than treating a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The decision as to the amount and types of information necessary to develop a source water protection program should be determined by the local community based on its own needs and limitations. Wellhead or source water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

FIGURE 1. Geographic Location for the City of Payette



Section 2. Conducting the Assessment

General Description of the Source Water Quality

The City of Payette, Idaho is a community of approximately 6806 people, located near the confluence of the Payette, Snake, and Malheur Rivers in southwestern Idaho (Figure 1). The public drinking water system for the City of Payette is comprised of seven wells.

The primary water quality issue currently facing the City of Payette is that of sporadic detection of microbial contamination (total coliform bacteria) in various wells. One well (#8) which historically had problems with detection of microbial contamination has been taken out of service and replaced. Currently more urgent issues are related to water quantity and the capability of the system to meet current and projected future demands. The pumping capacities of many of the wells in the system are in decline as a result of biofouling and are continually in need of rehabilitation.

Defining the Zones of Contribution - Delineation

The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the zone of contribution into time of travel zones (zones indicating the number of years necessary for a particle of water to reach a well) for water in the aquifer. DEQ used a refined computer model approved by the EPA in determining the three-year (Zone 1B), six-year (Zone 2), and ten-year (Zone 3) time-of-travel (TOT) for water associated with the Payette Valley aquifer in the vicinity of the City of Payette, Idaho. The computer model used site-specific data, assimilated by DEQ from a variety of sources including the city and other local well logs. The delineated source water assessment area for the City of Payette can best be described as an approximately two and one half square mile area extending to the south- southeast in the immediate vicinity of the City of Payette (Figure 2). Because of the close proximity of the City of Payette wells to one another, the resultant interference during pumping, and to the uncertainty with respect to the direction of ground water flow, the TOT zones were developed for all wells together, with all wells pumping. The actual data used by DEQ in determining the source water assessment delineation areas are available upon request.

Identifying Potential Sources of Contamination

A potential source of contamination is defined as any facility or activity that stores, uses, or produces, as a product or by-product, the contaminants regulated under the Safe Drinking Water Act and has a sufficient likelihood of releasing such contaminants at levels that could pose a concern relative to drinking water sources. The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of ground water contamination. The locations of potential sources of contamination within the delineation areas were obtained by field surveys conducted by DEQ and from available databases.

The dominant land use outside the City of Payette is rangeland to the east, northeast and southeast, and mixed urban and irrigated cropland/pasture to the north, south, and west.

Land use within the City of Payette city limits consists of residential homes, small businesses, and light manufacturing. Homes within the City of Payette are connected to a sewer system, while homes outside of town operate with individual septic systems. The City of Payette wastewater treatment facilities consist of concrete-lined oxidation ditches with primary clarification.

It is important to understand that a release may never occur from a potential source of contamination provided best management practices are used at the facility.

Many potential sources of contamination are regulated at the federal level, state level, or both to reduce the risk of release. Therefore, when a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation. There are a number of methods that water systems can use to work cooperatively with potential sources of contamination, such as educational visits and inspections of stored materials. Many owners of such facilities may not even be aware that they are located near a public water supply well.

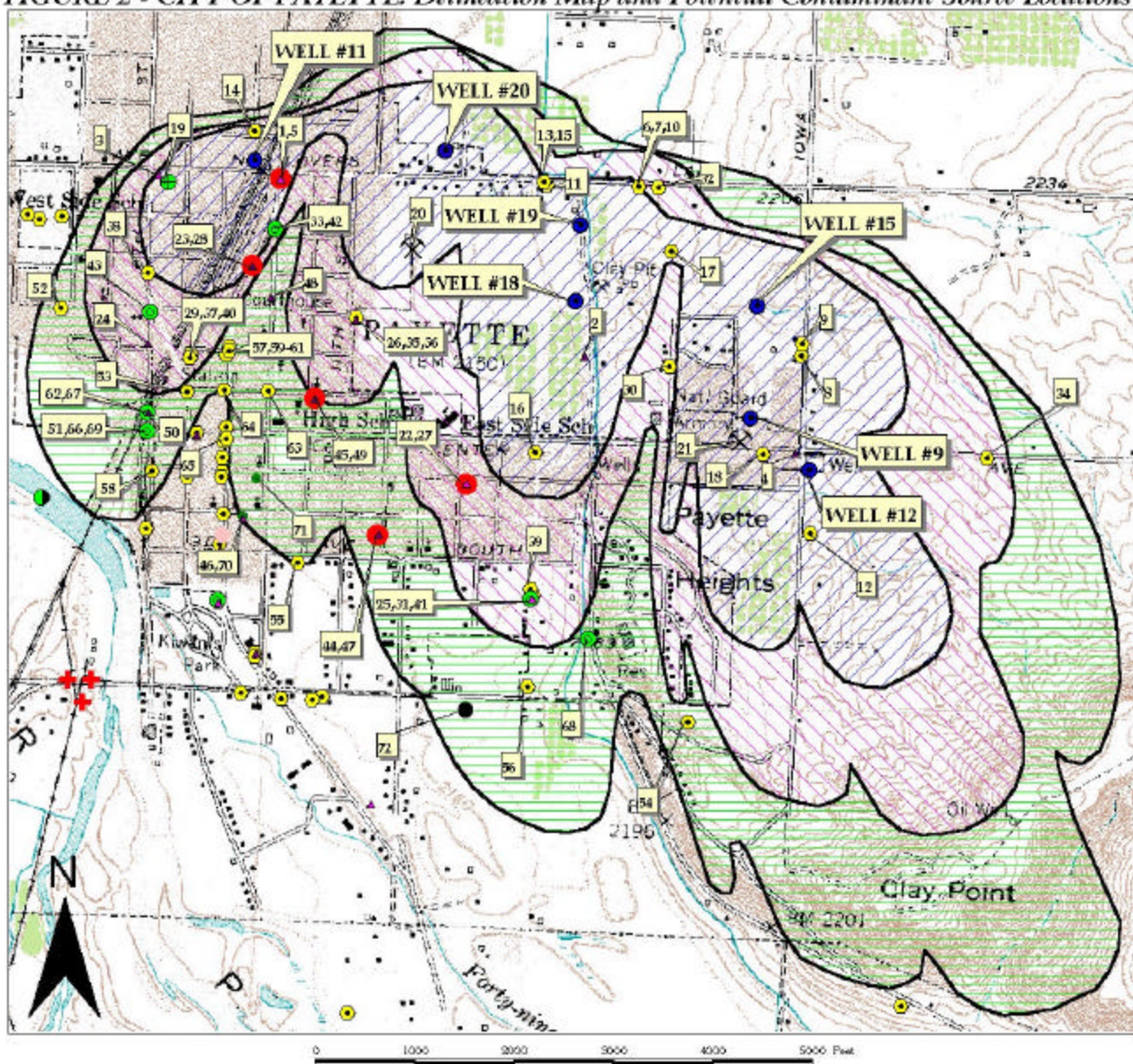
Contaminant Source Inventory Process

A primary contaminant inventory of the study area was conducted during August of 2000. This involved identifying and documenting potential contaminant sources within the City of Payette Source Water Assessment Area through the use of computer databases and Geographic Information System maps developed by DEQ.

Table 1 lists the potential contaminants of concern, time of travel zones, and information source. A total of 63 potential contaminant sites are located within the delineated source water areas. As with the delineation process, because of the close spatial proximity of the City of Payette wells to one another the potential contaminant inventory was run on the combined TOT zones developed with all wells pumping. Many of the potential contaminant sources within delineated source water areas (29) are located within the six to ten year TOT zone. Potential contaminant sources located in the delineated source water areas within the City of Payette, while varied, are dominated by gas stations, automobile repair facilities, furniture manufacturing and refinishing operations, food processing facilities, trucking facilities, and miscellaneous underground storage tank sites (Figure 3).

Contaminants of concern from most sources are primarily related to Volatile Organic Chemical (VOC) and Synthetic Organic Chemical (SOC) classes of chemicals. Because the TOT zones are for the most part contained within the City of Payette urban boundaries there are relatively minor contributions from irrigated agriculture such as for Inorganic Chemicals (IOC).

FIGURE 2 - CITY OF PAYETTE: Delineation Map and Potential Contaminant Source Locations



PWS# 3380009
WELLS #9, #11, #12
#15, #18, #19, #20

Table 1. CITY OF PAYETTE Potential Contaminant Inventory

SITE #	Source Description ¹	TOT Zone ² (years)	Source of Information	Potential Contaminants ³
1,5	Gas Station	0-3	Database Search	VOC, SOC
2	Auto Dealership	0-3	Database Search	VOC, SOC
3	Gas Station	0-3	Database Search	VOC, SOC
4	State Government	0-3	Database Search	VOC, SOC
6, 7, 10	Veterinarians	0-3	Database Search	IOC, Microbial
8	Photographers-Portrait	0-3	Database Search	VOC, SOC
9	Lawn Maintenance	0-3	Database Search	VOC, SOC
11	Land Clearing & Leveling	0-3	Database Search	VOC, SOC
12	Roofing Contractors	0-3	Database Search	SOC
13	Storage-Household & Commercial	0-3	Database Search	NONE
14	Gas Station	0-3	Database Search	VOC, SOC
15	Recreational Vehicle Parks	0-3	Database Search	NONE
16	Leather Gloves & Mittens (Mfrs)	0-3	Database Search	IOC, VOC, SOC
17	Carpet & Rug Cleaners	0-3	Database Search	IOC, VOC, SOC
18	Janitor Service	0-3	Database Search	IOC, SOC
19	Cercla Site	0-3	Database Search	
20	Sand and Gravel	0-3	Database Search	NONE
21	Clay	0-3	Database Search	NONE
22,27	Gas Station	0-6	Database Search	VOC, SOC
23,28	Auto Repair	0-6	Database Search	VOC, SOC
24	Underground Tanks	0-6	Database Search	VOC, SOC
25,41	Gas Station	0-6	Database Search	VOC, SOC
26	Local Government; Closed	0-6	Database Search	NONE
29	Packing & Crating Service	0-6	Database Search	NONE
30	Garbage Collection	0-6	Database Search	IOC, VOC, SOC
31	Computers-Manufacturers	0-6	Database Search	VOC, SOC
32	Feed Mill Equipment & Supplies (Mfg)	0-6	Database Search	VOC, SOC
33,42	Church Furniture-Manufacturers	0-6	Database Search	VOC, SOC
34	General Contractors	0-6	Database Search	VOC, SOC
35	County Govt-Transportation Program	0-6	Database Search	NONE
36	County Govt-Transportation Program	0-6	Database Search	VOC, SOC
37	Printers	0-6	Database Search	VOC, SOC
38	Tree Service	0-6	Database Search	
39	Recreational Vehicles-Repairing	0-6	Database Search	VOC, SOC
40	Movers	0-6	Database Search	VOC, SOC
43	Delivery Service	0-6	Database Search	VOC, SOC

² TOT = time of travel (in years) for a potential contaminant to reach the wellhead

³ IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Table 1 (continued). CITY OF PAYETTE Potential Contaminant Inventory

SITE #	Source Description ¹	TOT Zone ² (years)	Source of Information	Potential Contaminants ³
44,47	Underground Tanks	6-10	Database Search	VOC, SOC
45,49	Utilities	6-10	Database Search	VOC, SOC
46	Gas Station	6-10	Database Search	VOC, SOC
48	Commercial	6-10	Database Search	VOC, SOC
50	Truck/Transporter	6-10	Database Search	VOC, SOC
51	Canning (Manufacturers)	6-10	Database Search	IOC
52	Automobile Repairing & Service	6-10	Database Search	VOC, SOC
53	Feed-Dealers (Wholesale)	6-10	Database Search	IOC
54	Painters	6-10	Database Search	VOC, SOC
55	Laboratories-Medical	6-10	Database Search	IOC, VOC, SOC
56	Farm Equipment-Repairing & Parts	6-10	Database Search	VOC, SOC
57	Roofing Contractors	6-10	Database Search	SOC
58	Automobile Body-Repairing & Painting	6-10	Database Search	VOC, SOC
59	Automobile Repairing & Service	6-10	Database Search	VOC, SOC
60	Antiques-Repairing & Restoring	6-10	Database Search	VOC, SOC
61	Curtain & Drapery-Manufacturers	6-10	Database Search	IOC, VOC, SOC
62	Automobile & Truck Brokers	6-10	Database Search	VOC, SOC
63	Funeral Directors	6-10	Database Search	IOC, VOC, SOC
64	Office Furniture & Eqpt-Rpr & Refinishing	6-10	Database Search	VOC, SOC
65	Newspapers (Publishers)	6-10	Database Search	VOC, SOC
66	Food Processing	6-10	Database Search	IOC
67	Truck/Transporter	6-10	Database Search	VOC, SOC
68	USEPA Removal Site	6-10	Database Search	VOC, SOC
69	Canning (Manufacturers)	6-10	Database Search	IOC
70	Gasoline Station	6-10	Database Search	VOC, SOC
71	Utilities	6-10	Database Search	VOC, SOC
72	Priority Area	6-10	Database Search	SOC

² TOT = time of travel (in years) for a potential contaminant to reach the wellhead

³ IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Section 3. Susceptibility Analyses

The susceptibility of the wells to contamination was ranked as high, moderate, or low risk according to the following considerations: hydrologic characteristics, physical integrity of the well, land use characteristics, and potentially significant contaminant sources. The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. Therefore, a high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. The following summaries describe the rationale for the susceptibility ranking.

Hydrologic Sensitivity

Hydrologic sensitivity was generally high for all wells with the exception of Well 11 which was moderate (Table 3). The high rating reflects the relatively shallow nature of the ground water system, the lack of significant clay layers or surficial soil conditions which would retard the vertical transport of contaminants, and the relative uniformity of hydrologic conditions throughout the system. The blue clay layer which is present in other portions of Payette County does not occur in all locations in the vicinity of the City of Payette and where it does occur it is significantly thinner in overall thickness or occurs in several thin units.

Well Construction

Well construction directly affects the ability of the wells to protect the aquifer from contaminants. Lower scores imply a system that can better protect the water. The City of Payette drinking water system consists of seven wells that extract ground water for domestic and industrial uses. Water extraction from individual wells is monitored and managed from a central location. Well system construction scores were generally low, with a few wells (Wells 9, 12, and 20) scoring moderate sensitivity.

The wells in the City of Payette system range in total depth from 124 to 273 feet below ground surface (Table 2). All the City of Payette wells are screened at relatively greater depths in the aquifer, but only three of seven wells are screened below any thickness of blue clay. The screened sections within the city wells range from 20 to 105 feet in length and average 46 feet. Two wells which received a moderate susceptibility rating for construction (wells 9 and 12) had a lack of detailed information about gravel packing and surface sealing, two important aspects of proper well construction. Well 20 received a moderate rating based on the lack of casing and annular seal extending to a low permeability unit.

The Idaho Department of Water Resources (IDWR) *Well Construction Standards Rules (1993)* require all public water systems (PWSs) follow DEQ standards as well. IDAPA 58.01.08.550 requires that PWSs follow the *Recommended Standards for Water Works (1997)* during construction. Various aspects of the standards can be assessed from well logs. Table 1 of the *Recommended Standards for Water Works (1997)* states that 8-inch steel casing requires a thickness of 0.322 inches, and 12-inch and 16-inch casing require a thickness of 0.375 inches. Wells 18 and 19 use 0.250-inch thick casing, well 9 uses 0.313-inch casing, and casing thickness is not indicated for wells 11, 12, and 15. The standards state that screen will be installed and have openings based on sieve analysis of the formation. Standard 3.2.4.1 requires all PWSs to have yield and drawdown tests that last “24 hours or until stabilized drawdown has continued for six hours at 1.5 times” (Recommended Standards for Water Works, 1997) the design pumping rate. Failure to meet these standards increases the susceptibility score of the well.

Potential Contaminant Source and Land Use

During the susceptibility evaluation for the City of Payette drinking water system the selection of sources which could potentially contribute contamination to a specific well included those sources which fell within a particular well’s TOT zone as well as nearby sources which, because of uncertainty regarding the pumping interference of nearby wells, could likely contribute contamination.

All wells scored in the low category for the IOC chemical class and for microbial contaminants. Because the TOT zones are for the most part contained within the City of Payette urban boundaries there are relatively minor contributions from irrigated agriculture for chemical classes such as IOC. VOC and SOC sources contributed the most points resulting in a moderate score for several wells.

Table 2. Selected Construction Characteristics of CITY OF PAYETTE Wells.

Well #	Total Depth (ft.)	Screened Interval (ft. below ground surface)	Screen Below Blue Clay?	Gravel Pack Interval (ft.)
9	198	83-188	N	??
11	186	157-177	Y	8-186
12	200	131-171	N	??
15	228	155-205	N	0-228
18	273	220-273	Y	0-273
19	220	167-197, 198-213	Y	0-220
20	124	98-118	N	90-125

Final Susceptibility Ranking

In terms of the total susceptibility score, it can be seen from Table 3 that none of the seven wells showed a high susceptibility for any chemical class or for microbial contaminants. All wells rated moderate for VOC and SOC chemicals, reflecting the numerous potential sources of these contaminants in the immediate vicinity of Payette. The moderate rating is also due in large part to the high rating for nearly every well for hydrologic sensitivity.

Table 3. Summary of City of Payette Susceptibility Evaluation

Well	Susceptibility Scores ¹									
	Hydrologic Sensitivity	Contaminant Inventory				System Construction	Final Susceptibility Ranking			
		IOC	VOC	SOC	Microbials		IOC	VOC	SOC	Microbials
9	H	L	L	L	L	M	M	M	M	M
11	M	L	M	M	L	L	L	M	M	L
12	H	L	L	L	L	M	M	M	M	M
15	H	L	M	M	L	L	M	M	M	M
18	H	L	M	L	L	L	L	M	M	M
19	H	L	M	M	L	L	L	M	M	M
20	H	L	L	L	L	M	M	M	M	M

¹H = High Susceptibility, M = Moderate Susceptibility, L = Low Susceptibility

IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Water chemistry data show the City of Payette drinking water system is not currently impacted by contamination. A detection above a drinking water standard Maximum Contaminant Level (MCL) or a detection of total coliform bacteria or fecal coliform bacteria at the wellhead will automatically give a high susceptibility rating to a well despite the land use of the area because a pathway for contamination already exists. In the last three years there have been five incidents where total coliform bacteria have been detected, with four of these incidents occurring in individual wells (wells 8, 15, 19, and 20) and one in the distribution system. All of the detections in wells occurred in different wells with no repeat detections once the incident was resolved. No E. coli has been detected during any of these incidents. For these reasons a high susceptibility was not assigned to these wells.

Susceptibility Summary

All wells in the City of Payette system take their water in whole or in large part from deeper portions of an unconfined/semi-confined alluvial/lacustrine aquifer. This deeper aquifer is generally overlain by a shallow aquifer, which in the nearby vicinities of Fruitland and Ontario has been demonstrated to be a distinct water-bearing unit in terms of water quality, water yield, and the sources of recharge (IDEQ, 2000 and Walker, 1989.). The shallow aquifer contains much higher levels of nitrate, lower levels of iron, and higher levels of arsenic than the deeper aquifer. Water yields from the shallow aquifer are significantly higher than from the deeper aquifer. Ground water in the shallow aquifer is recharged primarily from surface water irrigation, direct precipitation, and canal leakage while the sources of recharge to the deeper aquifer are indeterminate but are very likely much older.

The shallow and deep aquifers are typically separated by a significant thickness of blue clay which acts to retard the vertical movement of contamination. In the vicinity of Payette the presence and thickness of this clay is less certain thereby increasing the susceptibility of the City of Payette drinking water wells to contamination. Most wells in the City of Payette drinking water system have moderate susceptibility as a result.

Section 4. Options for Source Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective source water protection program is tailored to the particular local source water protection area. A community with a fully-developed source water protection program will incorporate many strategies. For the City of Payette, source water protection activities should focus on strategies that ensure that appropriate well construction practices are implemented within the wellhead protection area. The goal of these practices are to eliminate a significant pathway for contaminants at the surface to be transported to the deeper portion of the aquifer from which the City of Payette drinking water system draws its supply.

Since the majority of the wellhead protection area lies within the municipal boundaries of the City of Payette, opportunities exist for regulation of significant potential sources of contamination. Additional supply wells should be sited, if possible, away from those highly developed areas which contain numerous potential sources of contamination.

Due to the time involved with the movement of ground water, wellhead protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

While the deeper aquifer possesses adequate quality, low yield, construction difficulties, reductions in yield over time due to well fouling, and uncertainty as to the sustainability of production in the long-term (as a result of uncertainty as to sources of recharge) limit the use of this water-bearing unit as a solution. An investigation of the feasibility of a shift to potential surface water sources to augment or replace the current ground water system should be considered.

Assistance

Public water supplies and others may call the following IDEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the IDEQ office for preliminary review and comments.

Boise Regional IDEQ Office (208) 373-0550

State IDEQ Office (208) 373-0502

Website: <http://www2.state.id.us/deq>

Water suppliers serving fewer than 10,000 persons may contact John Bokor, Idaho Rural Water Association, at 1-800-962-3257 for assistance with wellhead protection strategies.

References

Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, 1997. "Recommended Standards for Water Works."

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POTENTIAL CONTAMINANT INVENTORY

LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ASuperfund, is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (IDEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System)

– Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by IDEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.

Attachment A

City of Payette Susceptibility Analysis Worksheet

The final scores for the susceptibility analysis were determined using the following formulas:

- 1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)
- 2) 2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Scoring:

- 0 - 5 Low Susceptibility
- 6 - 12 Moderate Susceptibility
- > 13 High Susceptibility

Ground Water Susceptibility Report		Public Water System Name :	PAYETTE CITY OF	Well# :	WELL #9	10/20/2000 1:06:50 PM	
		Public Water System Number	3380009				
1. System Construction				SCORE			
Drill Date		06/03/1964					
Driller Log Available		YES					
Sanitary Survey (if yes, indicate date of last survey)		YES		1995			
Well meets IDWR construction standards		NO		1			
Wellhead and surface seal maintained		YES		0			
Casing and annular seal extend to low permeability unit		NO		2			
Highest production 100 feet below static water level		NO		1			
Well located outside the 100 year flood plain		YES		0			
Total System Construction Score				4			
2. Hydrologic Sensitivity							
Soils are poorly to moderately drained		NO		2			
Vadose zone composed of gravel, fractured rock or unknown		YES		1			
Depth to first water > 300 feet		NO		1			
Aquitard present with > 50 feet cumulative thickness		NO		2			
Total Hydrologic Score				6			
3. Potential Contaminant / Land Use - ZONE 1A				IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A		RANGELAND, WOODLAND, BASALT		0	0	0	0
Farm chemical use high		YES		2	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A		NO		NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A				2	0	0	0
Potential Contaminant / Land Use - ZONE 1B							
Contaminant sources present (Number of Sources)		YES		1	2	3	0
(Score = # Sources X 2) 8 Points Maximum				2	4	6	0
Sources of Class II or III leacheable contaminants or		YES		1	2	3	
4 Points Maximum				1	2	3	
Zone 1B contains or intercepts a Group 1 Area		NO		0	0	0	0
Land use Zone 1B		Less Than 25% Agricultural Land		0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B				3	6	9	0
Potential Contaminant / Land Use - ZONE II							
Contaminant Sources Present		NO		0	0	0	
Sources of Class II or III leacheable contaminants or		NO		0	0	0	
Land Use Zone II		Less than 25% Agricultural Land		0	0	0	
Potential Contaminant Source / Land Use Score - Zone II				0	0	0	0
Potential Contaminant / Land Use - ZONE III							
Contaminant Source Present		NO		0	0	0	
Sources of Class II or III leacheable contaminants or		NO		0	0	0	
Is there irrigated agricultural lands that occupy > 50% of		NO		0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III				0	0	0	0
Cumulative Potential Contaminant / Land Use Score				5	6	9	0
4. Final Susceptibility Source Score				11	11	12	10
5. Final Well Ranking				Moderate	Moderate	Moderate	Moderate

1. System Construction

SCORE

Drill Date	02/27/1980	
Driller Log Available	YES	
Sanitary Survey (if yes, indicate date of last survey)	YES	1995
Well meets IDWR construction standards	YES	0
Wellhead and surface seal maintained	YES	0
Casing and annular seal extend to low permeability unit	YES	0
Highest production 100 feet below static water level	YES	0
Well located outside the 100 year flood plain	YES	0

Total System Construction Score

0

2. Hydrologic Sensitivity

Soils are poorly to moderately drained	YES	0
Vadose zone composed of gravel, fractured rock or unknown	NO	0
Depth to first water > 300 feet	NO	1
Aquitard present with > 50 feet cumulative thickness	NO	2

Total Hydrologic Score

3

3. Potential Contaminant / Land Use - ZONE 1A

IOC
ScoreVOC
ScoreSOC
ScoreMicrobial
Score

Land Use Zone 1A	URBAN/COMMERCIAL	2	2	2	2
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		2	2	2	2

Potential Contaminant / Land Use - ZONE 1B

Contaminant sources present (Number of Sources)	YES	0	4	4	0
(Score = # Sources X 2) 8 Points Maximum		0	8	8	0
Sources of Class II or III leacheable contaminants or	YES	0	4	4	
4 Points Maximum		0	4	4	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0

Total Potential Contaminant Source / Land Use Score - Zone 1B

0

12

12

0

Potential Contaminant / Land Use - ZONE II

Contaminant Sources Present	YES	2	2	2	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Land Use Zone II	Less than 25% Agricultural Land	0	0	0	

Potential Contaminant Source / Land Use Score - Zone II

3

3

3

0

Potential Contaminant / Land Use - ZONE III

Contaminant Source Present	YES	1	1	1	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Is there irrigated agricultural lands that occupy > 50% of	NO	0	0	0	

Total Potential Contaminant Source / Land Use Score - Zone III

2

2

2

0

Cumulative Potential Contaminant / Land Use Score

7

19

19

2

4. Final Susceptibility Source Score

4

7

7

4

5. Final Well Ranking

Low

Moderate

Moderate

Low

1. System Construction			SCORE			
	Drill Date	01/01/2020				
	Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)		YES	1995			
Well meets IDWR construction standards		NO	1			
Wellhead and surface seal maintained		YES	0			
Casing and annular seal extend to low permeability unit		NO	2			
Highest production 100 feet below static water level		NO	1			
Well located outside the 100 year flood plain		YES	0			
Total System Construction Score			4			
2. Hydrologic Sensitivity						
	Soils are poorly to moderately drained	NO	2			
Vadose zone composed of gravel, fractured rock or unknown		NO	0			
Depth to first water > 300 feet		NO	1			
Aquitard present with > 50 feet cumulative thickness		NO	2			
Total Hydrologic Score			5			
3. Potential Contaminant / Land Use - ZONE 1A			IOC Score	VOC Score	SOC Score	Microbial Score
	Land Use Zone 1A	RANGELAND, WOODLAND, BASALT	0	0	0	0
	Farm chemical use high	YES	2	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A		NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A			2	0	0	0
Potential Contaminant / Land Use - ZONE 1B						
	Contaminant sources present (Number of Sources)	YES	0	0	1	0
	(Score = # Sources X 2) 8 Points Maximum		0	0	2	0
Sources of Class II or III leacheable contaminants or		YES	0	0	1	
	4 Points Maximum		0	0	1	
Zone 1B contains or intercepts a Group 1 Area		NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land		0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B			0	0	3	0
Potential Contaminant / Land Use - ZONE II						
	Contaminant Sources Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or		NO	0	0	0	
Land Use Zone II	Less than 25% Agricultural Land		0	0	0	
Potential Contaminant Source / Land Use Score - Zone II			0	0	0	0
Potential Contaminant / Land Use - ZONE III						
	Contaminant Source Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or		NO	0	0	0	
Is there irrigated agricultural lands that occupy > 50% of		NO	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III			0	0	0	0
Cumulative Potential Contaminant / Land Use Score			2	0	3	0
4. Final Susceptibility Source Score			9	9	10	9
5. Final Well Ranking			Moderate	Moderate	Moderate	Moderate

1. System Construction

SCORE

Drill Date	07/01/1978	
Driller Log Available	YES	
Sanitary Survey (if yes, indicate date of last survey)	YES	1995
Well meets IDWR construction standards	YES	0
Wellhead and surface seal maintained	YES	0
Casing and annular seal extend to low permeability unit	NO	2
Highest production 100 feet below static water level	YES	0
Well located outside the 100 year flood plain	YES	0

Total System Construction Score

2

2. Hydrologic Sensitivity

Soils are poorly to moderately drained	NO	2
Vadose zone composed of gravel, fractured rock or unknown	NO	0
Depth to first water > 300 feet	NO	1
Aquitard present with > 50 feet cumulative thickness	NO	2

Total Hydrologic Score

5

3. Potential Contaminant / Land Use - ZONE 1A

IOC
ScoreVOC
ScoreSOC
ScoreMicrobial
Score

Land Use Zone 1A	URBAN/COMMERCIAL	2	2	2	2
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		2	2	2	2

Potential Contaminant / Land Use - ZONE 1B

Contaminant sources present (Number of Sources)	YES	2	2	4	0
(Score = # Sources X 2) 8 Points Maximum		4	4	8	0
Sources of Class II or III leachable contaminants or	YES	2	2	4	
4 Points Maximum		2	2	4	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0

Total Potential Contaminant Source / Land Use Score - Zone 1B

6

6

12

0

Potential Contaminant / Land Use - ZONE II

Contaminant Sources Present	YES	0	2	2	
Sources of Class II or III leachable contaminants or	YES	0	1	1	
Land Use Zone II	Less than 25% Agricultural Land	0	0	0	

Potential Contaminant Source / Land Use Score - Zone II

0

3

3

0

Potential Contaminant / Land Use - ZONE III

Contaminant Source Present	NO	0	0	0	
Sources of Class II or III leachable contaminants or	NO	0	0	0	
Is there irrigated agricultural lands that occupy > 50% of	NO	0	0	0	

Total Potential Contaminant Source / Land Use Score - Zone III

0

0

0

0

Cumulative Potential Contaminant / Land Use Score

8

11

17

2

4. Final Susceptibility Source Score

9

9

10

8

5. Final Well Ranking

Moderate

Moderate

Moderate

Moderate

1. System Construction					SCORE			
	Drill Date	05/07/1987						
	Driller Log Available	YES						
Sanitary Survey (if yes, indicate date of last survey)		YES			1995			
Well meets IDWR construction standards		YES			0			
Wellhead and surface seal maintained		YES			0			
Casing and annular seal extend to low permeability unit		YES			0			
Highest production 100 feet below static water level		YES			0			
Well located outside the 100 year flood plain		YES			0			
Total System Construction Score					0			
2. Hydrologic Sensitivity								
	Soils are poorly to moderately drained	NO			2			
Vadose zone composed of gravel, fractured rock or unknown		NO			0			
Depth to first water > 300 feet		NO			1			
Aquitard present with > 50 feet cumulative thickness		NO			2			
Total Hydrologic Score					5			
3. Potential Contaminant / Land Use - ZONE 1A					IOC Score	VOC Score	SOC Score	Microbial Score
	Land Use Zone 1A	URBAN/COMMERCIAL			2	2	2	2
	Farm chemical use high	NO			0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A		NO			NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A					2	2	2	2
Potential Contaminant / Land Use - ZONE 1B								
	Contaminant sources present (Number of Sources)	YES			0	3	1	0
(Score = # Sources X 2) 8 Points Maximum					0	6	2	0
Sources of Class II or III leacheable contaminants or		YES			0	3	1	
4 Points Maximum					0	3	1	
Zone 1B contains or intercepts a Group 1 Area		NO			0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land				0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B					0	9	3	0
Potential Contaminant / Land Use - ZONE II								
	Contaminant Sources Present	YES			0	2	2	
Sources of Class II or III leacheable contaminants or		YES			0	1	1	
Land Use Zone II	Less than 25% Agricultural Land				0	0	0	
Potential Contaminant Source / Land Use Score - Zone II					0	3	3	0
Potential Contaminant / Land Use - ZONE III								
	Contaminant Source Present	YES			0	1	1	
Sources of Class II or III leacheable contaminants or		YES			0	1	1	
Is there irrigated agricultural lands that occupy > 50% of		NO			0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III					0	2	2	0
Cumulative Potential Contaminant / Land Use Score					2	16	10	2
4. Final Susceptibility Source Score					5	8	7	6
5. Final Well Ranking					Low	Moderate	Moderate	Moderate

1. System Construction					SCORE			
	Drill Date	02/07/1992						
	Driller Log Available	YES						
Sanitary Survey (if yes, indicate date of last survey)		YES			1995			
Well meets IDWR construction standards		YES			0			
Wellhead and surface seal maintained		YES			0			
Casing and annular seal extend to low permeability unit		YES			0			
Highest production 100 feet below static water level		YES			0			
Well located outside the 100 year flood plain		YES			0			
Total System Construction Score					0			
2. Hydrologic Sensitivity								
	Soils are poorly to moderately drained	NO			2			
Vadose zone composed of gravel, fractured rock or unknown		NO			0			
Depth to first water > 300 feet		NO			1			
Aquitard present with > 50 feet cumulative thickness		NO			2			
Total Hydrologic Score					5			
3. Potential Contaminant / Land Use - ZONE 1A					IOC Score	VOC Score	SOC Score	Microbial Score
	Land Use Zone 1A	URBAN/COMMERCIAL			2	2	2	2
	Farm chemical use high	NO			0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A		NO			NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A					2	2	2	2
Potential Contaminant / Land Use - ZONE 1B								
	Contaminant sources present (Number of Sources)	YES			0	4	3	1
(Score = # Sources X 2) 8 Points Maximum					0	8	6	2
Sources of Class II or III leacheable contaminants or		YES			0	4	3	
4 Points Maximum					0	4	3	
Zone 1B contains or intercepts a Group 1 Area		NO			0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land				0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B					0	12	9	2
Potential Contaminant / Land Use - ZONE II								
	Contaminant Sources Present	YES			0	2	2	
Sources of Class II or III leacheable contaminants or		YES			0	1	1	
Land Use Zone II	Less than 25% Agricultural Land				0	0	0	
Potential Contaminant Source / Land Use Score - Zone II					0	3	3	0
Potential Contaminant / Land Use - ZONE III								
	Contaminant Source Present	YES			0	1	1	
Sources of Class II or III leacheable contaminants or		YES			0	1	1	
Is there irrigated agricultural lands that occupy > 50% of		NO			0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III					0	2	2	0
Cumulative Potential Contaminant / Land Use Score					2	19	16	4
4. Final Susceptibility Source Score					5	9	8	7
5. Final Well Ranking					Low	Moderate	Moderate	Moderate

1. System Construction

SCORE

Drill Date	05/16/2000	
Driller Log Available	YES	
Sanitary Survey (if yes, indicate date of last survey)	YES	2000
Well meets IDWR construction standards	YES	0
Wellhead and surface seal maintained	YES	0
Casing and annular seal extend to low permeability unit	NO	2
Highest production 100 feet below static water level	NO	1
Well located outside the 100 year flood plain	YES	0

Total System Construction Score

3

2. Hydrologic Sensitivity

Soils are poorly to moderately drained	NO	2
Vadose zone composed of gravel, fractured rock or unknown	NO	0
Depth to first water > 300 feet	NO	1
Aquitard present with > 50 feet cumulative thickness	NO	2

Total Hydrologic Score

5

3. Potential Contaminant / Land Use - ZONE 1A

IOC
ScoreVOC
ScoreSOC
ScoreMicrobial
Score

Land Use Zone 1A	URBAN/COMMERCIAL	2	2	2	2
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		2	2	2	2

Potential Contaminant / Land Use - ZONE 1B

Contaminant sources present (Number of Sources)	YES	0	1	0	0
(Score = # Sources X 2) 8 Points Maximum		0	2	0	0
Sources of Class II or III leacheable contaminants or	YES	0	1	0	
4 Points Maximum		0	1	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0

Total Potential Contaminant Source / Land Use Score - Zone 1B

0

3

0

0

Potential Contaminant / Land Use - ZONE II

Contaminant Sources Present	YES	0	2	2	
Sources of Class II or III leacheable contaminants or	YES	0	1	1	
Land Use Zone II	Less than 25% Agricultural Land	0	0	0	

Potential Contaminant Source / Land Use Score - Zone II

0

3

3

0

Potential Contaminant / Land Use - ZONE III

Contaminant Source Present	YES	1	1	1	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Is there irrigated agricultural lands that occupy > 50% of	NO	0	0	0	

Total Potential Contaminant Source / Land Use Score - Zone III

2

2

2

0

Cumulative Potential Contaminant / Land Use Score

4

10

7

2

4. Final Susceptibility Source Score

9

10

9

9

5. Final Well Ranking

Moderate

Moderate

Moderate

Moderate